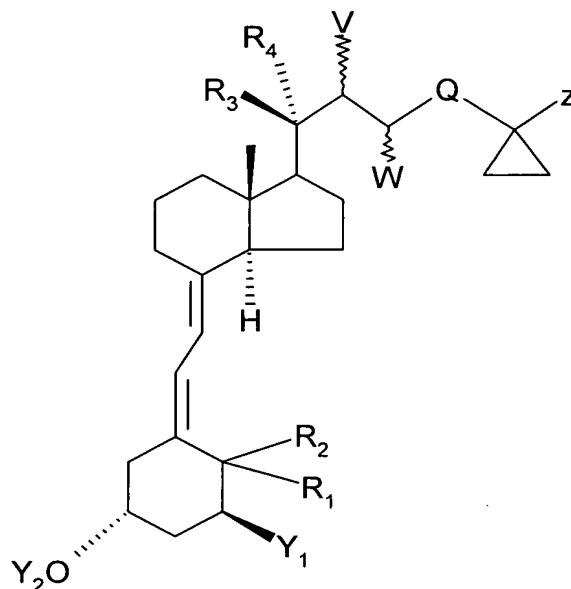


The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended): A vitamin D compound of formula I,



in which

$Y_1$  means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group  $-OCOR_8$ , in which

$R_8$  is an aliphatic or aromatic radical with 1 to 12 C atoms,

$Y_2$  means a hydrogen atom or a group  $-(CO)R_9$ , in which

$R_9$  is an aliphatic or aromatic radical with 1 to 12 C atoms,

$R_1$  and  $R_2$  are together each mean a hydrogen atom or together an exocyclic methylene group,

$R_3$  and  $R_4$ , independently of one another, mean a hydrogen atom, ~~a chlorine or fluorine atom, or~~ an alkyl group with 1 to 4 carbon atoms, ~~or together form a methylene group or together with quaternary carbon atom 20 form a 3- to 7-membered, saturated or unsaturated carbocyclic ring,~~

V and W together mean an E-double bond ~~or V means a hydroxyl group and W means a hydrogen atom,~~

Q means a straight-chain or branched carbon unit with up to 10 carbon atoms, which at any position can have  $\alpha$ - or  $\beta$ -hydroxyl groups, which in turn can be etherified or esterified, keto groups, amino groups or halogen atoms,

Z means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups,  $\alpha$ - or  $\beta$ -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms  
wherein Q is not -CHOH-.

2. (Previously Presented): A compound according to claim 1, wherein Q means an unsubstituted, unbranched alkylene unit with 1 or 2 carbon atoms, and Z means a straight-chain 1-oxoalkyl radical.

3. (Previously Presented): A compound according to claim 1, wherein Q means a -CH(OH)-CH<sub>2</sub>-CH<sub>2</sub> radical, and Z means a straight-chain 1-oxoalkyl radical.

4. (Cancelled):

5. (Currently Amended): A compound selected from:

(5Z,7E,22E)-(1S,3R)-25-Acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3-diol,

~~————(5Z,7E)-(1S,3R,22S)-25-acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

(5Z,7E,22E)-(1S,3R)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3-diol,

~~(5Z,7E)-(1S,3R,22S)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-  
triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,————~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-  
5,7,10(19)-triene-1,3,22-triol,~~

~~(5Z,7E)-(1S,3R,22R)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22S)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

~~————(5Z,7E)-(1S,3R,22R)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19)-triene-1,3,22-triol,~~

(5Z,7E,22E)-(1S,3R,24R)-25-acetyl-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-acetyl-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-

secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3-diol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-  
 secocholesta-5,7,10(19),22-tetraene-1,3-diol,  
 (5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-  
 dihydro-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,  
 (5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-  
 dihydro-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,  
 (5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-  
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,  
 (5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-  
 9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-



tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,  
 (5Z,7E,22E)-(1S,3R,24S)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-  
 tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

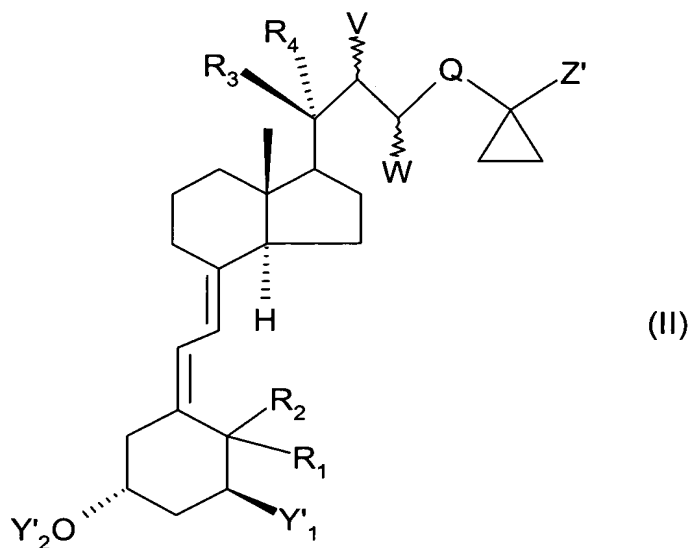
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-

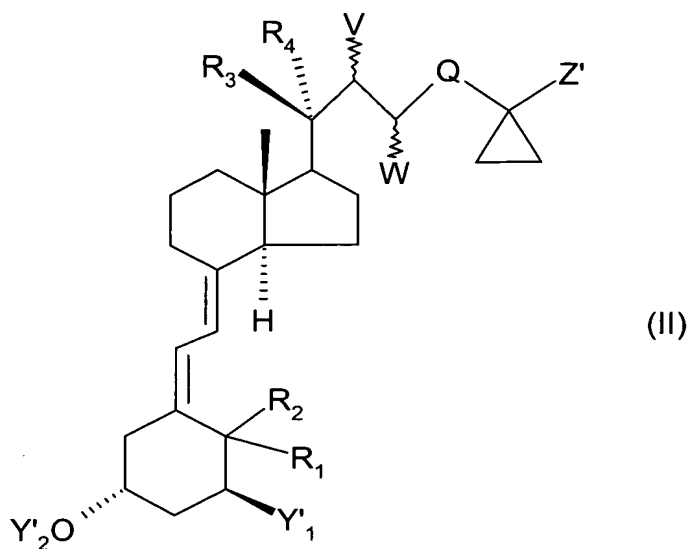
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-  
5,7,10(19),22-tetraene-1,3,24-triol,



[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,  
 [5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, and  
 [5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

6. (Currently Amended): A process for the production of compounds according to claim 1, comprising:

converting a compound of formula II



in which

Y'<sub>1</sub> means a hydrogen atom, a halogen atom, or a protected hydroxyl group, and

Y'<sub>2</sub> means a hydroxy protective group, and

Z' means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have protected keto groups, protected α- or β-hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms

into a compound of formula I by simultaneous or successive cleavage of the hydroxy and keto protective groups and optionally by partial or complete esterification of free hydroxyl groups.

7. (Cancelled):

8. (Withdrawn): A method for treating a patient suffering from hyperproliferative diseases of the skin, pruritus, tumor diseases, precancerous stages, disorders of the immune system, inflammatory diseases, rheumatoid arthritis, asthma, auto-immune diseases, multiple sclerosis, diabetes mellitus, AIDS, or rejection reactions associated with autologous, allogeneic or xenogeneic transplants comprising administering to said patient an effective amount of a compound according to claim 1.

9. (Withdrawn): A method according to claim 8, wherein said compound is administered in combination with other substances that have an immunosuppressive action.

10. (Withdrawn): A method for treating a patient suffering from secondary hyperparathyroidism, renal osteodystrophia, senile and postmenopausal osteoporosis, diabetes mellitus type II, or degenerative diseases of the peripheral and central nervous system comprising administering to said patient an effective amount of a compound according to claim 1.

11. (Withdrawn): A method for treating a patient suffering from hypercalcemias or granulomatous diseases, paraneoplastic hypercalcemias, hypercalcemia in the case of hyperparathyroidism, hirsutism, arteriosclerosis, or inflammatory diseases comprising administering to said patient an effective amount of a compound according to claim 1.

12. (Cancelled):

13. (Cancelled);

14. (Previously Presented): A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

15. (Withdrawn): A method according to claim 9, wherein said other substance is selected from cyclosporin A, FK 506, rapamycin and anti-CD 4 antibodies.

16. (Withdrawn): A method for regulating hair growth in a patient comprising administering to said patient an effective amount of a compound according to claim 1.

17. (Withdrawn): A method of providing birth control to a male or female patient comprising administering to said patient a compound according to claim 1.

18. (Withdrawn): A method of inducing an immunostimulant effect in a patient comprising administering to said patient a compound according to claim 1.

19. (Previously Presented): A vitamin D compound wherein said compound is:

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z, 7E, 22E, 25(Z)]-(1S, 3R, 24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z, 7E, 22E, 25(E)]-(1S, 3R, 24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z, 7E, 22E, 25(E)]-(1S, 3R, 24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z, 7E, 22E)-(1S, 3R, 24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z, 7E, 22E, 25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, or

[5Z, 7E, 22E, 25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

20. (Cancelled):

21. (Currently Amended): A compound according to claim 1, wherein R<sub>3</sub> is H and R<sub>4</sub> is methyl, R<sub>3</sub> is methyl and R<sub>4</sub> is H, ~~R<sub>3</sub> is F and R<sub>4</sub> is methyl, R<sub>3</sub> is methyl and R<sub>4</sub> is F, or R<sub>3</sub> is methyl and R<sub>4</sub> is methyl or R<sub>3</sub> and R<sub>4</sub> together form a methylene group, or R<sub>3</sub> and R<sub>4</sub> together with carbon atom 20 form a cyclopropyl ring.~~

22. (Previously Presented): A compound according to claim 1, wherein R<sub>8</sub> and R<sub>9</sub> are each independently methyl, ethyl, propyl, i-propyl, butyl or phenyl.

23. (Previously Presented): A compound according to claim 1, wherein Q is  
-CH<sub>2</sub>-, -(CH<sub>2</sub>)<sub>2</sub>-, -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>7</sub>-, -CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OH)-, -CH<sub>2</sub>-CH<sub>2</sub>-CH(OH)-, -CH(OH)-CH<sub>2</sub>-,  
-CH(OH)-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-, -CH(OCH<sub>3</sub>)-, -CH<sub>2</sub>-CH(OC<sub>2</sub>H<sub>5</sub>)-, -CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-  
CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OCOC<sub>4</sub>H<sub>9</sub>)-CH<sub>2</sub>-, -CO-CH<sub>2</sub>-, -CO-CH<sub>2</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>COCH<sub>2</sub>-, -CH(Cl)-, -CH(Cl)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(Cl)-, -CH(NH<sub>2</sub>)-, -CH(NH<sub>2</sub>)-CH<sub>2</sub>-,  
-CH(N(CH<sub>3</sub>)<sub>2</sub>)-, -CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-,  
-CH(F)-, -CH(F)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(F)-CH<sub>2</sub>-.

24. (Previously Presented): A compound according to claim 1, wherein Q is an unsubstituted, unbranched alkylene with 1-3 carbon atoms, -CH(OH)-CH<sub>2</sub>- or -CH(OH)-CH<sub>2</sub>-CH<sub>2</sub>-.

25. (Previously Presented): A compound according to claim 1, wherein Z is  
-CH<sub>3</sub>, -CH<sub>2</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>2</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>3</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>4</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>5</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>6</sub>-CH<sub>3</sub>,  
-(CH<sub>2</sub>)<sub>7</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>,  
-CH(OH)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OH)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH<sub>3</sub>,  
-CH(OCH<sub>3</sub>)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OC<sub>2</sub>H<sub>5</sub>)-CH<sub>3</sub>,  
-CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OCOC<sub>4</sub>H<sub>9</sub>)-CH<sub>2</sub>-CH<sub>3</sub>,  
-CH<sub>2</sub>COCH<sub>2</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-CH(Cl)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-CH<sub>3</sub>,  
-CH<sub>2</sub>-CH(F)-CH<sub>2</sub>-CH<sub>3</sub>.



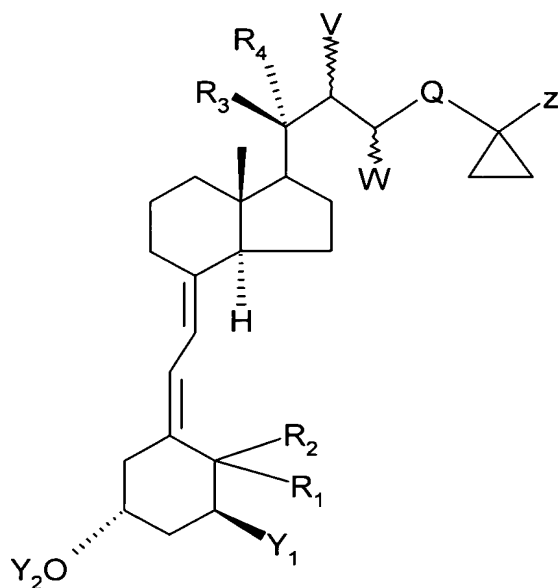
26. (Previously Presented): A compound according to claim 1, wherein Z is 1-oxoalkyl having 1-12 C atoms, alkyl having 1-12 C atoms or alkenyl having 1-12 C atoms.

27. (Cancelled):

28. (Previously Presented): A compound according to claim 26, wherein Z is 1-oxopropyl, 1-oxobutyl, 1-oxopentyl, 1-oxohexyl, 1-oxoheptyl, 1-oxooctyl, 1-oxononyl, 1-oxodecyl, acetyl, methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, 1-propenyl, 1-butenyl, 1-pentenyl, 1-hexenyl, 1-heptenyl, 1-octenyl, 1-nonenyl, or 1-decenyl.

29. (Previously Presented): A method of preparing a pharmaceutical composition comprising combining a compound according to claim 1 with a pharmaceutically compatible vehicle.

30. (Currently Amended): A vitamin D compound of formula I,



in which

$Y_1$  means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group  $-OCOR_8$ , in which

$R_8$  is an aliphatic or aromatic radical with 1 to 12 C atoms,

Y<sub>2</sub> means a hydrogen atom or a group -(CO)R<sub>9</sub>, in which

R<sub>9</sub> is an aliphatic or aromatic radical with 1 to 12 C atoms,

R<sub>1</sub> and R<sub>2</sub> ~~are together~~ ~~each mean a hydrogen atom or together~~ an exocyclic methylene group,

R<sub>3</sub> and R<sub>4</sub>, independently of one another, mean a hydrogen atom, ~~a chlorine or fluorine atom, or~~ an alkyl group with 1 to 4 carbon atoms, ~~or together form a methylene group or together with quaternary carbon atom 20 form a 3- to 7-membered, saturated or unsaturated carbocyclic ring,~~

V and W together mean an E-double bond ~~or V means a hydroxyl group and W means a hydrogen atom,~~

Q means an unsubstituted, unbranched alkylene unit with 1 or 2 carbon atoms, and

Z means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups, - or -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms.

31. (Previously Presented): A compound according to claim 1, wherein Z is -CH<sub>3</sub>, -CH<sub>2</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>2</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>3</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>4</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>5</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>6</sub>-CH<sub>3</sub>, -(CH<sub>2</sub>)<sub>7</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>, or -CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>.

32. (Previously Presented): A compound according to claim 1, wherein Z is -CH(OH)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OH)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH<sub>3</sub>, or -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH<sub>3</sub>.

33. (Previously Presented): A compound according to claim 1, wherein Z is -CH(OCH<sub>3</sub>)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OC<sub>2</sub>H<sub>5</sub>)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-CH<sub>3</sub>, or -CH<sub>2</sub>-CH(OCOC<sub>4</sub>H<sub>9</sub>)-CH<sub>2</sub>-CH<sub>3</sub>.

34. (Previously Presented): A compound according to claim 1, wherein Z is -CH<sub>2</sub>COCH<sub>2</sub>-CH<sub>3</sub>, -CH<sub>2</sub>-CH(Cl)-CH<sub>3</sub>, -CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-CH<sub>3</sub>, or -CH<sub>2</sub>-CH(F)-CH<sub>2</sub>-CH<sub>3</sub>.

35. (Previously Presented): A compound according to claim 1, wherein Z is a 1-

oxoalkyl group with 1-12 carbon atoms, an alkyl group with 1-12 carbon atoms, or an alkenyl group with 1-12 carbon atoms, in which the double bond can have E- or Z-geometry and can be present at any position.

36. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R)-25-Acetyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

37. (Cancelled):

38. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R)-25-acetyl-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopropyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxobutyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxopentyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxohexyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxoheptyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxooctyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R)-25-(1-oxononyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or

(5Z,7E,22E)-(1S,3R)-25-(1-oxodecyl)-26,27-cyclo-24a-homo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

39. (Cancelled):

40. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24R)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-25-acetyl-24-methoxy-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopropyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxobutyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxopentyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxohexyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxoheptyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxooctyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxononyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol,

(5Z,7E,22E)-(1S,3R,24R)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol, or

(5Z,7E,22E)-(1S,3R,24S)-24-methoxy-25-(1-oxodecyl)-26,27-cyclo-24a,24b-dihomo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3-diol.

41. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24S)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-methyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-propyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-butyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-pentyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-hexyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-heptyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-octyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-nonyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24S)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol, or

(5Z,7E,22E)-(1S,3R,24R)-25-decyl-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol.

42. (Previously Presented): A compound according to claim 5, wherein said compound is

(5Z,7E,22E)-(1S,3R,24S)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

(5Z,7E,22E)-(1S,3R,24R)-25-ethylene-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-

tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(E)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-propenyl)-26,27-cyclo-9,10-secocholesta-

5,7,10(19),22-tetraene-1,3,24-triol,  
[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-



[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-butenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-pentenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-hexenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-heptenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-octenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-nonenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol,

[5Z,7E,22E,25(Z)]-(1S,3R,24S)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol, or

[5Z,7E,22E,25(Z)]-(1S,3R,24R)-25-(1-decenyl)-26,27-cyclo-9,10-secocholesta-5,7,10(19),22-tetraene-1,3,24-triol.

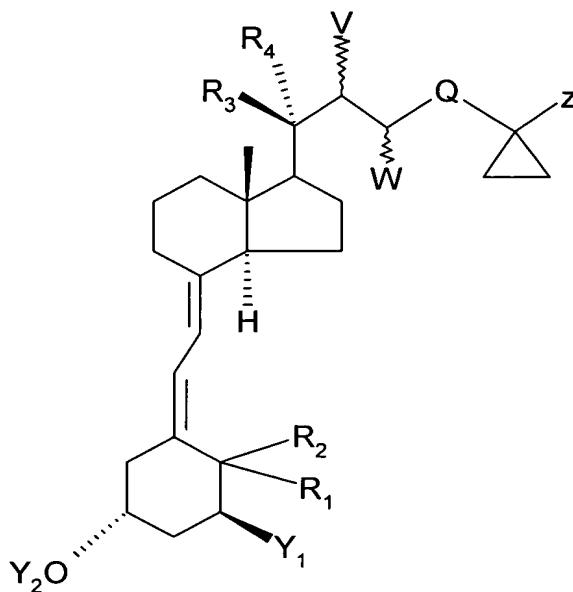
43. (Previously Presented): A compound according to claim 23, wherein Q is -CH<sub>2</sub>-, -(CH<sub>2</sub>)<sub>2</sub>-, -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>7</sub>-, -CH<sub>2</sub>-C(CH<sub>3</sub>)<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-CH(CH<sub>3</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-,

-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-, -CH(OCH<sub>3</sub>)-, -CH<sub>2</sub>-CH(OC<sub>2</sub>H<sub>5</sub>)-,  
 -CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-CH(OCOCH<sub>3</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(OCOC<sub>4</sub>H<sub>9</sub>)-CH<sub>2</sub>-, -CO-CH<sub>2</sub>,  
 -CO-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>COCH<sub>2</sub>-, -CH(Cl)-, -CH(Cl)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(Cl)-, -CH(NH<sub>2</sub>)-,  
 -CH(NH<sub>2</sub>)-CH<sub>2</sub>-, -CH(N(CH<sub>3</sub>)<sub>2</sub>)-, -CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-  
 CH(N(CH<sub>3</sub>)<sub>2</sub>)-CH<sub>2</sub>-, -CH(F)-, -CH(F)-CH<sub>2</sub>-, -CH<sub>2</sub>-CH(F)-CH<sub>2</sub>-.

44. (Previously Presented): A compound according to claim 26, wherein Z is alkyl having 1-12 C atoms or alkenyl having 1-12 C atoms.

45. (Previously Presented): A compound according to claim 44, wherein Z is methyl, ethyl, propyl, butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, 1-propenyl, 1-butenyl, 1-pentenyl, 1-hexeynyl, 1-heptenyl, 1-octenyl, 1-nonenyl, or 1-decenyl.

46. (Currently Amended): A vitamin D compound of formula I,



in which

Y<sub>1</sub> means a hydrogen atom, a hydroxyl group, a fluorine, chlorine or bromine atom or a group -OCOR<sub>8</sub>, in which

- $R_8$  is an aliphatic or aromatic radical with 1 to 12 C atoms,
- $Y_2$  means a hydrogen atom or a group  $-(CO)R_9$ , in which
- $R_9$  is an aliphatic or aromatic radical with 1 to 12 C atoms,
- $R_1$  and  $R_2$  are together ~~each mean a hydrogen atom or together~~ an exocyclic methylene group,
- $R_3$  and  $R_4$ , independently of one another, mean a hydrogen atom, ~~a chlorine or fluorine atom, or~~ an alkyl group with 1 to 4 carbon atoms, ~~or together form a methylene group or together with quaternary carbon atom 20 form a 3- to 7-membered, saturated or unsaturated carbocyclic ring,~~
- $V$  and  $W$  together mean an E-double bond ~~or  $V$  means a hydroxyl group and  $W$  means a hydrogen atom,~~
- $Q$  means a straight-chain or branched carbon unit with up to 10 carbon atoms, which at any position can have  $\alpha$ - or  $\beta$ -hydroxyl groups, which in turn can be etherified or esterified, keto groups, amino groups or halogen atoms,
- $Z$  means a straight-chain or branched-chain, saturated or unsaturated hydrocarbon radical with up to 12 carbon atoms, which at any positions can have keto groups,  $\alpha$ - or  $\beta$ -hydroxyl groups, which in turn can be etherified or esterified, amino groups, chlorine, or bromine atoms

wherein  $Q$  is not either  $-CHOH-$  or  $-CHOH-$  in which the OH group is esterified.

47. (Previously Presented): A compound according to claim 46, wherein  $Q$  is  $-CH_2-$ ,  $-(CH_2)_2-$ ,  $-(CH_2)_3-$ ,  $-(CH_2)_4-$ ,  $-(CH_2)_7-$ ,  $-CH_2-C(CH_3)_2-CH_2-$ ,  $-CH_2-CH(CH_3)-CH_2-CH(CH_3)-CH_2-$ ,  $-CH_2-CH(OH)-$ ,  $-CH_2-CH_2-CH(OH)-$ ,  $-CH(OH)-CH_2-$ ,  $-CH(OH)-CH_2-CH_2-$ ,  $-CH_2-CH(OH)-CH_2-CH(OH)-CH_2-$ ,  $-CH_2-CH(OH)-CH_2-$ ,  $-CH_2-CH(OH)-CH_2-CH(OH)-CH_2-$ ,  $-CH(OCH_3)-$ ,  $-CH_2-CH(OC_2H_5)-$ ,  $-CO-CH_2-$ ,  $-CO-CH_2-CH_2-$ ,  $-CH_2COCH_2-$ ,  $-CH(Cl)-$ ,  $-CH(Cl)-CH_2-$ ,  $-CH_2-CH(Cl)-$ ,  $-CH(NH_2)-$ ,  $-CH(NH_2)-CH_2-$ ,  $-CH(N(CH_3)_2)-$ ,  $-CH(N(CH_3)_2)-CH_2-$ ,  $-CH_2-CH(N(CH_3)_2)-CH_2-$ ,  $CH(N(CH_3)_2)-CH_2-$ ,  $-CH(F)-$ ,  $-CH(F)-CH_2-$ ,  $-CH_2-CH(F)-CH_2-$ .

48. (Previously Presented): A compound according to claim 47, wherein  $Q$  is  $-CH_2-$ ,  $-(CH_2)_2-$ ,  $-(CH_2)_3-$ ,  $-(CH_2)_4-$ ,  $-(CH_2)_7-$ ,  $-CH_2-C(CH_3)_2-CH_2-$ ,

$\text{-CH}_2\text{-CH(CH}_3\text{)-CH}_2\text{-CH(CH}_3\text{)-CH}_2\text{-}$ ,  $\text{-CH}_2\text{-CH(OH)-CH}_2\text{-CH(OH)-CH}_2\text{-}$ ,  
 $\text{-CH}_2\text{-CH(OH)-CH}_2\text{-}$ ,  $\text{-CH}_2\text{-CH(OH)-CH}_2\text{-CH(OH)-CH}_2\text{-}$ ,  $\text{-CH(OCH}_3\text{)-}$ ,  $\text{-CH}_2\text{-CH(OC}_2\text{H}_5\text{)-}$ ,  
 $\text{-CO-CH}_2\text{-}$ ,  $\text{-CO-CH}_2\text{-CH}_2\text{-}$ ,  $\text{-CH}_2\text{COCH}_2\text{-}$ ,  $\text{-CH(Cl)-}$ ,  $\text{-CH(Cl)-CH}_2\text{-}$ ,  $\text{-CH}_2\text{-CH(Cl)-}$ ,  
 $\text{-CH(NH}_2\text{)-}$ ,  $\text{-CH(NH}_2\text{)-CH}_2\text{-}$ ,  $\text{-CH(N(CH}_3\text{)}_2\text{)-}$ ,  $\text{-CH(N(CH}_3\text{)}_2\text{)-CH}_2\text{-}$ ,  
 $\text{-CH}_2\text{-CH(N(CH}_3\text{)}_2\text{)-CH}_2\text{-CH(N(CH}_3\text{)}_2\text{)-CH}_2\text{-}$ ,  $\text{-CH(F)-}$ ,  $\text{-CH(F)-CH}_2\text{-}$ ,  $\text{-CH}_2\text{-CH(F)-CH}_2\text{-}$ .

49. (Cancelled):

50. (Cancelled):